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Item 11 of the provisional agenda
Specialized Section on Standardization of Seed Potatoes

Standard for Seed potatoes

Submitted by the secretariat

The following document is submitted to the Working Party for adoption as amendments to the Standard for Seed Potatoes. It is prepared according to ECE/CTCS/2017/10 section II c and ECE/CTCS/2018/2 section VII a.

GE.18-14508(E)

1814508

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Proposed changes to the standard for seed potatoes

1. Replacement of the term (or the relevant acronym) 'Designated Authority (DA)'

Replace the term Designated Authority (DA) throughout the standard and the Guides (electronic versions) by "Certifying Authority (CA)" with the following definitions:

Annex VII:

Certifying Authority (CA): Organization(s), agency or agencies designated by government and/or industry to administer the certification of seed potatoes,

Introduction, Section IV:

"Certifying Authorities applying this Standard should notify the UNECE Secretariat".

2. Revision of Annex II and Annex IX

Amendment to Annex II B (2) – 3rd paragraph:

The number of plants inspected should be sufficient to ensure that, with an appropriate level of confidence, the tolerances given in Annex II A are not exceeded. Table 5 and 6 in Annex IX provide guidance on the number of plants to sample and maximum allowable number of each fault in each sample size.

3. Amendments to Annex IX

Proposed new heading: "Sample sizes for virus testing and field inspection"

Proposed new section "1. Introduction"

When undertaking field inspection or testing seed stocks for virus, it is seldom feasible to inspect or test the entire crop or stock, so a test is done on a sample. Ideally, only seed with faults below the tolerance would be accepted and those above the tolerance rejected. However, taking a sample means that only an estimation of the actual incidence of faults can be made.

The reliability of this estimation will vary with the size of the sample relative to the size of the crop or lot, and the population standard which is set for the test. Defining an acceptable population standard for any sample entails two types of risk.

The first is that of rejecting a crop or stock containing fewer faults than the tolerance and is often described as the "grower's" risk. The risk of accepting a crop or stock containing more faults than the tolerance is known as the "buyer's" risk. From the point of view of classification authorities, this could also be described as the risk of passing a crop or stock which fails to meet the official tolerances.

The choice of the testing technique may also have a bearing on the precision of the result, in particular the use of bulking of individual samples into one laboratory analysis. Bulking will have an impact on the confidence interval of the test.

Such testing makes a number of important assumptions, which are, primarily, that the faults are distributed homogeneously and that plants and tubers to be inspected or tested are sampled randomly. In addition, the choice of the size of sample will need to be balanced by other practical factors, such as cost, available facilities, labour, logistics of handling samples, seed stock size, etc.

The following tables and graphs illustrate some of the principles involved in establishing sample sizes for inspection and testing.

Proposed new heading: "2. Confidence limits for virus testing"

Proposed new heading: "3. Probability of classifying stocks to meet specified virus tolerances"

Proposed new heading: "4. Bulking of samples for virus testing"

Proposed new section "5. Sample sizes for field inspection"

Tolerances for faults detected during field inspection are specified in Annex II A. Annex II B states that the number of plants inspected should be sufficient to ensure that, with an appropriate level of confidence, the tolerances given in Annex II A are not exceeded. Determination of the "appropriate level of confidence" is at the discretion of the Certifying Authority, and the following tables are provided for guidance purposes.

Confidence levels for field inspection

One approach to determining an appropriate number of plants to inspect during field inspection is to determine an appropriate confidence level and inspect the number of plants required to be sure that, if no faults are found, the tolerance has not been exceeded. For example, if a Certifying Authority wishes to be 95% confident that the 0.1% tolerance for a fault in a crop has not been exceeded, a minimum of 3000 plants need to be inspected with no faults found (Table 5).

Table 5:
Rounded minimum sample size (along with no faults in sampled plants) required for statistical proof that the true level of faults is less than the specified maximum, at confidence levels for field inspections of 90%, 95% and 99%.

Specified maximum level of disease	*Minimum sample size (along with NO disease in sampled plants) required for statistical proof that the true level of disease is less than the specified maximum, at confidence level:*		
	90%	95%	99%
0%	A census (100% sample) of all plants is required for proving this is the case.		
0.01%	23,100	30,000	46,100
0.1%	2,310	3,000	4,610
0.2%	1,150	1,500	2,300
0.25%	920	1,200	1,840
0.5%	460	600	920
0.8%	290	380	580
1%	230	300	460
1.5%	160	200	310
2%	120	150	230
6%	40	50	75

For faults with higher tolerances, the number of plants to be inspected to be 95% confident that the tolerance has not been exceeded may seem quite small. For example, to be 95% confident that a tolerance of 1% has not been exceeded, only 300 plants need to be inspected. However, it is important to recall that the statistical validity of inspection requires that faults are evenly distributed through the crop, and that the plants sampled for inspection are selected randomly. Neither of these criteria are likely to be fully met in field inspections and, to compensate, a larger number of plants may need to be inspected.

Confidence intervals for field inspection

Another way of measuring confidence in an inspection result is to apply a confidence interval, based on the inspection sample size and the number of faults found. This is useful where the number of faults is close to the tolerance, where a standard level of confidence is not specified by the Certifying Authority, or where the actual sample size is below that required to be 95% confident of meeting the tolerance. The buyer can review the number of plants sampled, and the number of faults found, and determine the upper confidence interval.

For example, if a 0.5% tolerance applies to a crop this is the same as 5 faults per 1000 plants. If 1000 plants are inspected and 5 faults are found, the crop passes inspection. Similarly, if 3000 plants are inspected 15 faults are allowed. However, there is less confidence in the accuracy of the inspection result when fewer plants are inspected. In this example, the true number of faults when 1000 plants were inspected could be as high as 1.05%, but only as high as 0.77% when 3000 plants are inspected (Table 6).

Table 6

Upper limit of the 95% confidence interval (one-sided) for tolerances at differing field inspection sample sizes and numbers of faults detected.

Required tolerance (Annexe XI)	*Inspection sample size (actual number of plants inspected*	*Number of faults detected (arithmetically allowable)*	*Upper limit of 95% confidence interval (% faults)*
0.50%	1000	5	1.05
	3000	15	0.77
	6000	30	0.68
0.40%	1000	4	0.91
	3000	12	0.65
	6000	24	0.56
0.20%	1000	2	0.63
	3000	6	0.39
	6000	12	0.32
0.10%	1000	1	0.47
	3000	3	0.26
	6000	6	0.20
0.05%	1000	0	0.30
	3000	1	0.16
	6000	3	0.13
	7000	3	0.11
0.01%	1000	0	0.30
	3000	0	0.10
	6000	0	0.05
	10000	1	0.05
	25000	2	0.03

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Specialized Section on Standardization of Seed Potatoes

True Potato Seed Statement

Submitted by the secretariat

The following document is submitted to the Working Party for adoption as the position of the Specialized Section on Standardization of Seed Potatoes on True Potato Seed. It is prepared according to ECE/CTCS/2017/10 section II c and ECE/CTCS/2018/2 section VII a.

GE.18-14485(E)

1814485

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The position of the Specialized Section on True Potato Seed

- Currently commercial trading of propagative material of potatoes for the purpose of commercial planting is through the marketing of seed potato tubers. Small volumes of potatoes are also traded as microplants and mini/microtubers, particularly early-generation material intended for further multiplication or for the purposes of moving high-health status potato propagative material between territories. Thus, the material being marketed is clonally propagated potatoes where the progeny is genetically identical to the preceding generation. The UNECE standard covers this trade.
- Trade in True Potato Seed (TPS), also known as botanical seed, has been limited due to non-uniformity of the progeny crops derived from TPS. However, in recent years several plant breeding companies are advancing knowledge and techniques in the production of TPS which provides for much more uniform progeny. This has culminated in the first-ever F1 hybrid potato variety 'Oliver' being granted plant breeder's rights in the Netherlands in 2017.
- In countries with a well-established potato industry, tubers are the established method of trade in propagative material. However, the UNECE Specialized Section recognizes the potential merits of marketing TPS to growers outside the established potato supply chains whose production is based on horticultural methods,
- The UNECE standard does not currently cover TPS within its scope and the Specialized Section will consider whether and how to bring the trade of TPS within the scope of the standard in its future work programme.

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Matters arising since the last session

Programme of work of the Working Party on Agricultural Quality Standards 2019-2020 *

Submitted by the secretariat

Summary

This document contains the proposed programme of work of the Working Party and its Specialized Sections (on Standardization of Meat; Fresh Fruit and Vegetables; Dry and Dried Produce; and Seed Potatoes) for 2019-2020. The Working Party is invited to review and identify, as appropriate, areas of synergies and possible new areas of work directly under the Working Party and its Specialized Sections and endorse the 2019-2020 programme of work.

In addition, the Working Party is invited to request the renewal of its mandate for a five-year period from 2019 to 2023 and the update of its terms of reference contained in document ECE/EX/2008/L.8 (approved on 8 March 2008) to reflect the inclusion of the Sustainable Development Goals in its work without the amendments incurring financial implications.

This document is prepared according to ECE/CTCS/2017/10 section II c and ECE/CTCS/2018/2 section VII a.

* Submitted on the above date to finalize programme of work details.

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1815587

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I. Introduction

The Working Party on Agricultural Quality Standards (Working Party 7) is mandated to develop, interpret and promote the practical application of internationally agreed commercial quality standards for agricultural produce. Given the international impact of its work, it takes into account the needs of Governments as well as the private sector (producers, traders and consumers) from all countries where the standards are, or might be, implemented.

The Working Party, acting within the framework of the policies of the United Nations and the United Nations Economic Commission for Europe (ECE), and subject to the general supervision of the ECE Steering Committee on Trade Capacity and Standards, is entrusted with the implementation of the work under the ECE Trade Subprogramme covering agricultural quality standards. As per its terms of reference, the Working Party shall:

(a) Draw up internationally agreed commercial quality standards for agricultural produce based on existing national standards and industry and trade practices for: fresh fruit and vegetables (including early and ware potatoes); dry and dried produce; seed potatoes; meat; eggs; and cut flowers. The Working Party may develop standards for other agricultural products, as it considers necessary, subject to the availability of resources.

(b) Harmonize the application of its standards internationally by developing and disseminating interpretative and explanatory material.

(c) Revise and amend existing standards to adapt them to changing production, trading and marketing conditions.

(d) Cooperate with the World Trade Organization (WTO) secretariat to ensure that the standard-setting process is consistent with WTO rules.

(e) Cooperate with other standard-setting bodies, particularly with the Codex Alimentarius Commission, to avoid duplication of work and divergence in standards.

(f) Undertake research activities relevant to the development, implementation and promotion of its standards.

(g) Monitor the application of the standards through reports from public administrations and the private sector.

(h) Promote the standards and assist Governments with their practical application by organizing seminars, workshops and training courses.

(i) Define and promote uniform quality-control procedures and the use of the model quality conformity certificate. Cooperate with governmental, inter-governmental and other organizations implementing standards to achieve uniformity of inspection methods and comparability of results.

(j) Carry out voluntary peer reviews of national quality-control systems.

(k) Convene meetings of heads of national quality control services.

(l) Develop the framework for and promote mutual recognition of inspections by countries.

(m) Promote communication between governmental, inter-governmental and other organizations implementing the standards and carrying out controls to make trading simpler, smoother and more convenient for traders.

To facilitate discussions on the Working Party's programme of work for 2019-2020, this document lists the work undertaken at the Working Party level and summarizes the proposals for work outlined in the reports of the meetings of the Specialized Sections on Standardization of Meat; Fresh Fruit and Vegetables; Dry and Dried Produce; and Seed Potatoes, respectively.

II. Proposed programme of work under Working Party 7 – 2019-2020

The Working Party is invited to review the proposed programme of work 2019-2020 to be undertaken by the Working Party and provide guidance on the priorities for future work identified by the Specialized Sections, including potential synergies and possible additional areas of work to ensure that the ECE agricultural quality standards remain relevant and continue to facilitate trade, while simultaneously supporting the achievement of the Sustainable Development Goals – namely Goals 8,12 and 17.

Since 2014, the Working Party has aligned its work with the Sustainable Development Goals and focused on improving sustainable production and consumption patterns, particularly through its focus on the prevention of food loss/waste and related areas of work in cooperation with other international organizations, the private sector and civil society. This has resulted in the organization of three consecutive international conferences on cross-cutting themes involving all four Specialized Sections within the framework of the Working Party 7 session. Focusing on traceability of agricultural produce, on food loss prevention, and on sustainable food production and standards, the conferences explored trends and traceability requirements for agricultural produce, how international quality standards support traceability efforts, and how a better quality production prevents and reduces food loss. The latter supports directly Target 12.3 on halving food loss by 2030.

For the period of 2019-2020, it is proposed that the Working Party continue its focus on sustainable consumption and production related to the implementation of Goal 12 and its target 12.3 on halving food loss by 2030. To this end, it is proposed that the Working Party will work with its Specialized Sections and intensify efforts to review and compile practical measures and tools to help all participants of agricultural supply chains (covered by the Specialized Sections) to prevent and avoid food waste and food loss. In line with the aforementioned, the secretariat proposes that the Working Party in cooperation with its Specialized Sections could also pay particular attention to emerging topics such as food fraud or food integrity to ensure the full implementation of the related Sustainable Development Goals. In addition, the Working Party in cooperation with its Specialized Sections would also consider the sustainable use of available natural resources and measures to mitigate the negative effects of climate change. To this end, the Working Party would encourage the development of new tools and guidelines and organize international conferences/workshops to promote their use and implementation. The Working Party would do so in cooperation with other international organizations, the private sector and civil society.

The Working Party would also revise its Terms of Reference to include the work on SDGs and revise it Working Procedures to clarify certain provisions.

III. Proposals for Work for the Specialized Sections under Working Party 7

The following summarizes the proposals for future work discussed and agreed adopted by the four different Specialized Sections of the Working Party. The Working Party is invited to endorse the proposed work.

A. Specialized Section on Standardization of Meat

The Specialized Section on Standardization of Meat identified as its future work the topics included in document ECE/CTCS/WP.7/GE.11/2018/2 (see below). The Specialized Section has aligned its work with the Sustainable Development Goals. Continued focus will be on preventing food waste and loss in the meat supply chain and repurposing as well as sustainable resource utilization. Further items are included upon expressed demand of member States.

- Sustainable Development Goal 12: Compilation of standards' implementation and utilization worldwide;
- Study of the possibility to develop quality standards for fish meat (scope to be defined) aquaculture and sea;
- Study of the possibility to align the ECE cut codes with the Harmonized Commodity Description and Coding System;
- Eating quality research and ECE Standards;
- Revision of the Standard for Ovine meat;
- Symposium/workshop on food integrity, food fraud and traceability as well as on consistency of standards (public and private) for sustainability.

B. Specialized Section on Standardization of Fresh Fruit and Vegetables

The Specialized Section on Standardization of Fresh Fruit and Vegetables identified as its future work the topics included in document ECE/CTCS/WP.7/GE.1/2018/2 (see below). As per established practice, items related to revisions of standards are included upon expressed demand of member States closer to the meeting dates. The Specialized Section has aligned its work with the Sustainable Development Goals and is currently preparing two important guidelines to help prevent and reduce food loss by 2030. The Specialized Section is working on the electronic version of the quality certificate used in the exchange of fresh fruit and vegetables to enhance the clearance time of fresh produce at the border and reduce food loss related to delays. Experts from the Specialized Section are involved in capacity building events focused on fostering the implementation of sustainable trading practices to prevent food loss and enhance quality production in Central Asia.

- Sustainable Development Goal 12: Development of minimum marketing quality guidelines;
- Sustainable Development Goal 12: Development of a code of good practice;
- Sustainable Development Goal 12: Development of an e-quality certificate for the trade of fresh fruit and vegetables;
- Revision of the Standard for Citrus fruit;
- Revision of the Standard Layout.

C. Specialized Section on Standardization of Dry and Dried Produce

The Specialized Section on Standardization of Dry and Dried Produce identified as its future work the topics included in document ECE/CTCS/WP.7/GE.2/2018/2 (see below). The Specialized Section has aligned its work with the Sustainable Development Goals and continued focus will be given to the sustainable trade and production of nuts and dried fruit, food loss prevention and the sustainable resource utilization to mitigate climate change effects. Further items are included upon expressed demand of member States.

- Sustainable Development Goal 12: Organization of symposia on the sustainable trade in cashew nuts and other produce;
- Development of a poster or brochure on cashew kernels and a cashew kernel colour chart;
- Development of a new standard for dried berries;
- Development of a new standard for peanuts and pecan nuts;
- Development of a new standard for prunes, dried melons, papayas;
- Revision of the standard for inshell pistachios (kernel content and shell ratio);
- Revision of the Standard Layout;
- Finalization of the sampling plan, guidelines and video for nuts and dried fruit together with a sampling and inspection event;

- Review of the explanatory posters (inshell walnuts, walnut kernels, dried figs, dried grapes and inshell pistachios);
- Review of the Central Asian explanatory brochure for dried apricots in view of an adoption as an ECE brochure

D. Specialized Section on Standardization of Seed Potatoes

The Specialized Section on Standardization of Seed Potatoes identified as its future work the topics included in document ECE/CTCS/WP.7/GE.6/2018/2 (see below). The Specialized Section has aligned its work with the Sustainable Development Goals and continues to focus on the sustainable production and trade of certified seed to prevent food loss in the supply chain; and on the sustainable use of resources to mitigate climate change effects and improve food security. Further items are included upon expressed demand of member states.

- Results of the survey on seed potato virus testing methods;
- Development of a survey on bacterial testing methodologies;
- Development of a guide on minituber production;
- Review of the latest development in the area of true potato seed;
- Capacity-building and training material (guides, e-learning, videos);
- Review of risk-based inspection procedures;
- Review and discussions on new and emerging diseases and pests and strategies to mitigate risks;
- Updates by delegations on new legislation.